

**WHAT IS CLAIMED IS:**

1. A computer-implemented method of integrated natural resource management comprising:

- a) storing and managing resource management information associated with defined geographic units in a database, including storing spatial and non-spatial information associated with the defined geographic units;
- b) preparing resource activity plans based on the resource management information for use in managing a natural resource within the defined geographic units;
- c) tracking actual results of managing the natural resource according to the resource activity plans for use in updating the resource management information; and
- d) updating the resource management information based on the tracking of actual results.

2. The method of claim 1, wherein preparing resource activity plans further comprises notifying a user when a resource activity plan is affected by updates to the resource management information.

3. The method of claim 1, wherein the resource management information stored further comprises constraint information based on laws and regulations applicable to the defined geographic units and wherein the said constraint information is relied upon in the preparation of resource activity plans.

4. The method of claim 1, wherein the resource management information stored further comprises constraint information based on customer orders for the natural resource or for products derived from the natural

resource and wherein the said constraint information is relied upon in the preparation of resource activity plans.

5. The method of claim 1, further comprising notifying a user when changes in conditions of the resource management information have an impact on resource activity plans.
6. The method of claim 5, wherein the resource management information stored further comprises feedback from actual results of managing the natural resource according to the resource activity plans.
7. The method of claim 1, wherein preparing resource activity plans further comprises preparing a plan for harvesting the natural resource within the geographic units.
8. The method of claim 7, wherein preparing resource activity plans further comprises preparing a plan for developing infrastructure for use in supporting harvesting the natural resource.
9. The method of claim 7, wherein preparing resource activity plans further comprises preparing a plan for maintaining and deactivating infrastructure for use in supporting harvesting the natural resource.
10. The method of claim 7, wherein preparing resource activity plans further comprises preparing a plan for reclamation of the defined geographic units following the receipt of update information pertaining to the effects of harvesting the natural resource.
11. The method of claim 10, wherein preparing resource activity plans further comprises preparing a silviculture related plan.
12. The method of claim 1, further comprising notifying a user when one or more of the resource activity plans do not comply with constraints set by the resource management information.

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13. The method of claim 12, wherein notifying further comprises notifying the user of features of one or more resource activity plans identified as inconsistent with quantitative constraints specified for the defined geographic unit in question by resource attribute information and regulatory constraint information.
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14. The method of claim 12, further comprising verifying that the resource activity plans comply with one or more silviculture prescriptions associated with the defined geographic units.
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15. The method of claim 14, further comprising verifying that the resource activity plans associated with at least one of the defined geographic units comply with a silviculture prescription associated with the at least one of the defined geographic units, including comparing one or more quantitative constraints in the silviculture prescription with ecological data stored in the database for the at least one of the defined geographic units.
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16. A computer-implemented system for integrated natural resource management comprising:
- a) means for storing and managing resource management information associated with defined geographic units in a database, comprising means for storing spatial information and non-spatial information associated with the defined geographic units;
  - b) means for preparing resource activity plans based on the resource management information for use in managing a natural resource within the defined geographic units;
  - c) means for tracking actual results of managing the natural resource according to the resource activity plans for use in updating the resource management information; and
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d) means for updating the resource management information based on the tracking of actual results.

17. The system of claim 16, further comprising means for notifying a user when a resource activity plan is affected by updates to the resource management information.

18. The system of claim 16, wherein the resource management information stored further comprises regulatory constraint information applicable to the defined geographic units and wherein the said regulatory constraint information is relied upon by the means for preparation of resource activity plans to verify compliance with such regulatory constraint information by such resource activity plans.

19. The system of claim 16, wherein the resource management information stored further comprises constraint information based on customer orders for the natural resource or for products derived from the natural resource and wherein the said constraint information is relied upon by the means for preparation of resource activity plans.

20. The system of claim 16, further comprising means for notifying a user when one or more of the resource activity plans do not comply with constraints set by the resource management information.

21. The system of claim 20, where the means for notifying further comprises means for notifying the user of features of one or more resource activity plans identified as inconsistent with quantitative constraints specified for the defined geographic unit in question by resource attribute information and regulatory constraint information.

22. The system of claim 16, wherein the means for preparing resource activity plans further comprises means for preparing a plan for harvesting the natural resource.

23. The system of claim 22, wherein the means for preparing resource activity plans further comprises means for preparing a plan for developing infrastructure elements for use in supporting harvesting of the natural resource.

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24. The system of claim 23, wherein the means for preparing resource activity plans further comprises means for preparing a plan for maintaining and deactivating infrastructure elements for use in supporting harvesting the natural resource.

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25. The system of claim 22, wherein the means for preparing resource activity plans further comprises means for preparing a plan for post-harvest reclamation of at least one of the defined geographic units.

26. The system of claim 16, wherein the means for preparing resource activity plans further comprises means for preparing a silviculture related plan.

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27. A computer-implemented system for integrated natural resource management comprising:

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a) a resource management information system adapted to store and manage resource management information associated with defined geographic units in a database, including spatial information and non-spatial information associated with the defined geographic units;

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b) a resource activity planning system adapted to prepare resource activity plans based on the resource management information for use in managing a natural resource within the defined geographic units;

c) an actual results tracking system adapted to track actual results of managing the natural resource according to the resource

activity plans for use in updating the resource management information; and

- d) a product inventory management system adapted to store harvested inventory movement results received from the actual results tracking system;

wherein the resource management information system is adapted to update the resource management information based on the tracking of actual results by the actual results tracking system.

- 28.** The system of claim **27**, further comprising a resource activity management system adapted to provide users with views of the resource activity plans and adapted to compare the resource activity plans with the actual results tracked by the actual results tracking system.
- 29.** The system of claim **28**, further comprising a customer tracking system adapted to store and track customer information and requirements including delivery requirements, wherein product inventory movements can be monitored by the product inventory management system to verify that actual product inventory that is in the process of being harvested for delivery will be delivered to customers in accordance with delivery requirements of such customers.
- 30.** A computer-implemented method for use in a computerized natural resource management system, the method comprising:
- a) planning for developing and maintaining infrastructure elements for use in extracting a natural resource from a defined geographic unit;
- b) planning for the extraction and delivery of the natural resource from the defined geographic unit using the infrastructure elements;

- c) tracking results of actual extraction and delivery of the natural resource from the defined geographic unit; and
- d) planning for reclamation of the natural resource within the defined geographic unit.

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**31.** The method of claim **30**, wherein the planning of the development and maintenance of the infrastructure elements further comprises:

- a) preparing a schedule for constructing the infrastructure elements; and
- b) planning maintenance activities associated with the infrastructure elements and monitoring the progress of said maintenance activities.

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**32.** The method of claim **30**, wherein the planning of the development and maintenance of the infrastructure elements further comprises:

- a) tracking construction, inspection and deactivation of the infrastructure element associated with the defined geographic unit.

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**33.** A computer-implemented method of natural resource management comprising:

- a) preparing an operational plan for extracting a natural resource from a plurality of defined geographic units and for delivering the extracted natural resource to at least one processing facility, said plurality of defined geographic units making up an operational area which is subject to the operational plan;
- b) committing the operational plan for use in a resource management system to manage the harvesting and delivery of the natural resource; and

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- c) verifying that the operational plan does not conflict with any other operational plans committed to the resource management system that also involve plans for extracting the natural resource within one or more of said plurality of defined geographic units.

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**34.** The method of claim **33**, wherein preparing further comprises specifying harvesting methods, resource processing destinations, and harvesting dates.

**35.** The method of claim **33**, wherein the preparation of the operational plan further comprises identifying said plurality of defined geographic units by specifying filtering criteria in order to limit said plurality of defined geographic units to a subset thereof based on the filtering criteria.

**36.** A computer-implemented method of integrated natural resource management comprising:

- a) preparing logging schedules for harvesting a timber resource from a plurality of defined geographic units, each defined geographic unit having spatial and non-spatial inventory attributes;
- b) planning delivery destinations for the timber resource to be harvested from the defined geographic units;
- c) planning harvesting methods for the timber resource;
- d) tracking actual harvesting and delivery of the timber resource from the defined geographic units; and
- e) planning for renewal of the timber resource within the defined geographic units and tracking actual renewal activities with respect to the timber resource.

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